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A STUDY OF FARMING IN SOUTHWESTERN KENTUCKY.

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HOW TO MEASURE SUCCESS IN FARMING.

To be successful as a business, a farm should earn a fair rate of interest on the investment and return to the operator fair wages for labor and management after paying all expenses, including depreciation. In the locality under consideration in this bulletin 5 per cent is assumed to be a fair rate of interest on invested capital. It is just about what 68 landlords in this locality averaged from rented farms, and is about what the average reliable real-estate loans would net the investor.

Wages for labor and management are commonly known as labor income. The average labor income of the 342 farms studied was found to be $356.55. The following is a business statement of the average of these farms showing how labor income is derived:

Total capital (owner's and tenant's capital combined)		$17,029.00
Working capital		3,494.00
Total receipts	$2,896.00	
Total expenses, including unpaid family labor	1,688.00	
Farm income		1,208.00
Five per cent interest on investment ($17,029)		851.45
Labor income		356.55

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In addition to the labor income of $356.55, this average farm furnished a part of the family living and a house to live in, the value of which is estimated to be $500. Besides, an average of $81 for unpaid labor was charged in expenses, which should be regarded as a part of the income of the family. Thus the total net income of an average family owning their farm might be summarized as follows:

Interest on investment	$851.45
Labor income	356.55
Estimated value of family living and house furnished by the farm	500.00
Unpaid family labor	81.00
Total	1,789.00

Labor income is commonly used to measure the business success of one farm as compared with another. It does not always show whether an individual is a successful or unsuccessful farmer.

FACTORS WHICH MAKE SOME FARMS MORE SUCCESSFUL THAN OTHERS.

Two definite objects should be kept in mind when considering successful farming, namely, obtaining profits and maintaining soil fertility. The ordinary diversified farm to a large extent must depend on crop rotations and a proper system of live-stock farming to maintain the fertility of the soil. On nearly all farms in the part of Kentucky studied, however, lime and commercial fertilizers are used to great advantage.

The factors which most directly affect profits are: Size of business, crop yields, returns from live stock, type of farming, diversity, and the selection and proportioning of crops and live stock.

SIZE OF BUSINESS.

A matter of first importance in farming is the size of the business. However skillful or energetic a farmer may be, or however fertile his land, he can not hope for business success if his business is not on a large enough scale. In the area studied 29 farmers on farms under 100 acres in size made an average farm income of $370 and a labor income of only $81. Such an income, in addition to what the farm may furnish for the family living and a house to live in, could not be counted as more than a wage. Sixty farms averaging 286 acres in size made an average labor income of $356, while 46 farms averaging 715 acres in size made a labor income of $1,133.

The extent to which a farmer may enlarge his business depends on the capacity of the operator to organize and operate a large business, and on available capital and labor. Among the 342 farms studied, $134,000 was the largest amount of invested capital handled

by any individual farmer. The large diversified farms require a heavy investment in live stock, and experience has shown that handling live stock involves considerable risk, so that farmers hesitate to use their own capital too freely in live-stock investments; for the same reason it is difficult to borrow large amounts for such ventures.

On the farms studied the most common way of enlarging the farm business is by renting additional land. Of the farmers visited, those who rented additional land almost invariably made higher profits than those who farmed only the land they owned. Fifty-five farm owners out of 342 farmers rented additional land and made an average labor income of $552, while the average labor income of farm owners without additional rented land was $222. Sixty-eight were tenant farmers, and these made the highest labor income, $656.13.

The good farmer will aim to make the net earnings of his farm as high as possible. Net earnings are what is left after subtracting from receipts all expenses excepting a charge for rent of land, but including a charge for management.[1] Net earnings as thus defined would be what a farmer could afford to pay a landlord for rent. The average of 342 farmers made the land earn $3.14 per acre, net. The average of 140 more successful farmers made the land earn $6.14 per acre. The average of all others, representing the less profitable farms, was $1.05 per acre. Difference in quality of soil only partly accounted for the difference in land earnings, since all these farms are located on land similar in kind and topography. Neither did the prices of land vary widely on the different farms. The differences evidently were due mainly to farm practice and organization. The farms showing highest earnings per acre were better stocked, had greater diversity, less idle and waste land, and better economy in the utilization of horse labor. Farms over 400 acres in size averaged about 120 productive days' work per horse, while farms under 100 acres in size averaged but about 80 days. The cost of man labor was also lower on the large farms.

CROP YIELDS.

Next in importance to size of business in profitable farming is crop yield. While low crop yields in large measure account for the very low profits on many of these farms, a good many farmers were able to make fair profits in spite of low yields. It is even possible to secure high yields at too great expense. It must always be kept in

[1] When taking the farm records each farmer was asked to estimate the value of his services as manager, not including the labor he performed. The average of these estimates was $459. The average cost of labor on the farm, including an estimate of the value of the operator's actual farm labor, was $782. Thus the cost of management was 58 per cent of the labor cost.

mind that the money expended in getting higher yields should increase net returns by more than this expenditure.

In order to secure good crop yields under the system of farming in vogue in the locality under discussion it is necessary to use commercial fertilizer. The practice of liming the land is becoming well established and is a means of rapidly building up its fertility. In order to get proper results from fertilizer and lime, however, the soil must also be kept supplied with humus. Grass and clover are depended on mainly to supply this requisite, but these, sown usually with wheat, frequently fail to make a stand, thus interfering with the usual rotation. In this way the land loses in fertility; and in order to allow it to recuperate, it is often allowed to lie idle a year or more. This fact, in large measure, accounts for idle improved land on many farms.

Many practices for insuring a stand of grass and clover have been tried with more or less success. Among these are the spreading of straw on the land sown to wheat and grass-clover mixture. Another practice is to summer fallow the land. Then, after thoroughly harrowing and packing the seed bed, the grass-clover mixture is sown without a nurse crop. Sometimes land thus prepared is covered with straw, to conserve moisture and protect the young plants. The practice of liming the land, as previously mentioned, has proved to be one of the most effective means of insuring a stand of clover, and when this practice becomes established the problem of maintaining fertility will be largely solved.

Lespedeza, widely known as Japan clover, is finding its way slowly into the system of farming in this locality. It is found growing in most waste places, along highways, and is creeping into the pastures. This legume may be sown with red or alsike clover in the early spring. In places where the soil is too poor for the grass and red-clover mixture, the lespedeza will usually grow, and while it will not get high enough to cut for hay it will furnish pasture, besides holding and enriching the soil. It will reseed each year, thus holding the land indefinitely if not disturbed. It matures later than most meadow grasses and other legumes, thus furnishing good summer and fall pasture. On fertile soil it makes a good hay crop, or it may be cut late in the fall for seed.

The proper stocking of the farm is one of the most important factors in maintaining good crop yields. This depends largely on success in maintaining meadows and pasture. Thus the problem of stocking the farm is closely related to the problem of insuring each year a stand of grass and clover. If the farmers in this region will establish the practice of liming the soil, in order to make the grass and clover crop more reliable, and if they will sow alsike clover and

lespedeza with red clover and raise more live stock, the most fundamental and important problem in farming for this locality will be solved.

RETURNS FROM LIVE STOCK.

While crop yield is one of the more important factors in farming, the return from live stock is just as important in proportion to the amount it contributes to the receipts of the farm. In general, live stock is kept on the farm to serve three major purposes: (1) To increase the value of grain and feedstuffs on the farm by feeding them; (2) to utilize waste products; and (3) to maintain the fertility of the soil. The analysis of 342 southwestern Kentucky farms showed that the profits in farming increased with the increase in the amount of live stock kept on a given area of land. Farms that had the equivalent of one cow or horse to 7 or 8 acres of land were almost invariably more profitable than those that had a higher acreage per animal. The same records showed also that crop yields increased with the increased amount of live stock kept on a given area of land.

An important cause of loss on unsuccessful farms in this region is the waste of feed on live stock, especially of corn fed to hogs. Corn is now a high-priced feed and it occupies a considerable portion of the crop area on each farm, so that unless great care is exercised in feeding it the farm will suffer loss.

A common way to measure profits in live stock is to compare net receipts from live stock (gross receipts less value of purchases) with the value of feedstuffs consumed. The average of 342 farms showed that $107.57 in net receipts was made for each $100 worth of products fed. These products were valued at farm prices and included the farmer's estimate of the charge for pasture. The average of the best 39 farms had $226 net receipts for each $100 worth of feed consumed and had an average labor income of $1,155. The average of 46 farms showing greatest loss in feeding was $33 loss for each $100 worth of feed consumed. These farms showed a minimum labor income of $84. A great deal of the material consumed as feed could not be valued, for if not consumed in this way it would have been largely waste.

TYPE OF FARMING.

The usual type of farming carried on in southwestern Kentucky is wheat, tobacco, and general live-stock farming, these enterprises being the three main sources of income. Small farms usually find it profitable to specialize on some particular enterprise, such as tobacco, dairying, or hay. Diversity of crops and live stock, however, is an important factor on such farms. The larger the farm the more important the wheat crop becomes, but successful farms of this type have large

diversity. On farms of 200 to 300 acres in size there is a tendency to make dairying an important enterprise. Of the 342 farms studied, however, only about 24 were regular dairy farms. Most of these sold market milk directly to consumers. Thirty-four farms sold butter, cream to creameries, and some market milk. The farms on which dairying was made a special enterprise were nearly always more profitable than farms without the dairy. The average successful farm of all sizes had more dairy cows than the less successful farms, showing that dairying as a farm enterprise is to be encouraged in this locality. It is doubtful, however, whether the strictly dairy type of farming should be generally recommended, though dairy farms are generally profitable where a market for milk is accessible.

Generally speaking, on large and medium-sized farms, from one-half to two-thirds of the total farm receipts should come from live stock.

Tobacco is an important enterprise on nearly all types of farms. About 12 per cent cent of the crop area on the average small farm is planted to tobacco; on large farms, 6 to 8 per cent.

SELECTION OF ENTERPRISES.

The important crops that have been selected through long experience in farming in this section (about 125 years) are winter wheat, dark tobacco, corn, oats, timothy, and red clover. For many years these have characterized the system of farming. More recently cowpeas, soy beans, and lespedeza have also found an important place. Productive live stock, which have been found profitable to handle, are cattle, hogs, sheep, and poultry. The average successful farm of about 300 acres of improved land will be found to have crops distributed approximately as follows:

Per cent of improved land devoted to pasture and to crops, and per cent of crop area devoted to specific crops.

	Acres.	Per cent.
Distribution of improved land:		
Crop area	225	75
Pasture	75	25
Distribution of crop area:		
Wheat	101	45
Tobacco	20	9
Corn	55	25
Other cereals	12	5
Meadow hay	23	10
Miscellaneous crops	14	6

About 8 per cent of the land on the average farm is practically waste or idle land. This is a source of great waste on farms in this section. The less the waste or idle land on farms, the greater were the profits. Fifty-five farms averaged 18 per cent of waste land, and the average

labor income of these farms was $158, as compared with $356, the average of all farms.

Live stock on the average successful farm of 300 acres of improved land was distributed approximately as follows:

Live stock on average successful farm of 300 acres of improved land.

	Per farm.	Per 100 acres improved land.
Cows	6	2
Young stock	6	2
Hogs	60	20
Stock cattle	6	2
Sheep	45	15
Poultry	150	50
Work stock	10	3

Acres improved land per 1,000-pound animal, 6.6.

Ordinarily farms in this section are not as heavily stocked as they should be. The diversified farms on this type of soil should have a carrying capacity of at least one 1,000-pound animal for each 6 to 7 acres of improved land.

DIVERSITY.

A proper diversity of sources of income is an important factor in profitable farming. In the first place, this stabilizes the income from year to year. It is seldom that conditions which make one single crop unprofitable will affect all crops in the same manner. For instance, dry weather during the latter part of May and June may have a bad effect on corn and tobacco, when usually such conditions are favorable for wheat. In the second place, by means of diversity a better distribution of labor is secured. Tobacco furnishes work during every month of the year. Other crops require attention for shorter periods during the growing season. By long experience these various crops have come into an adjustment which meets all conditions in a practical and generally advantageous manner. Of course, on many farms a better adjustment could be secured by more careful planning along the lines indicated by general experience.

Farms between 220 and 300 acres in size proved to be the most efficiently organized among those studied, and had, also, the most profitable degree of diversity. They showed about three-fourths as much of their receipts from live stock as from tobacco. Receipts from wheat and tobacco were approximately equal in amount. About equal amounts were received also from hogs and sheep, and from cows and stock cattle. On farms of this size more receipts come from hogs than from sheep and more from stock cattle than from cows. On small farms—75 to 100 acres in size—receipts came mainly from some one enterprise like dairy products, hay, or tobacco.

Farms of average size—about 300 acres—showed the most profitable diversity when receipts were distributed about equally between wheat, tobacco, and live stock, with a few minor sources of income, such as clover seed, poultry, hay, and corn.

ROTATION OF CROPS.

Probably no other term has been repeated so often in discussing agricultural problems as the term "rotation of crops." On most diversified farms everywhere some kind of crop rotation is practiced. Experience will teach farmers that, except under special conditions, one crop can not profitably be grown continuously on the same plot of ground. When, for various reasons, complete rotation systems can not be carried out and when a sufficient amount of manure is not available to supply the needed humus and plant food, some land usually lies idle a year or more at a time to recuperate. Such a practice is a source of great waste on farms, as already has been pointed out.

When all the land on the farm is about equally adapted to such crops as can be grown in a locality, a quite regular crop rotation develops. Where such crop rotations prevail the farmer can predict with practical certainty the crop which will be grown on a certain field one or two years hence. In the locality where this survey was made, however, though the land is generally level to rolling in topography, there is considerable diversity of soil on different parts of any individual farm. This condition, together with the fact that grass and clover often miss a stand, makes it difficult to follow a definite system of rotation. Thirty-two farmers out of 342 stated that they followed no system. The great majority, however, have some system which they aim to follow. In the majority of cases this was given as corn or tobacco, wheat, and grass and clover. Often a part of the wheat field is plowed after harvest, disked, harrowed, and rolled. This process is called summer-fallowing. In the fall redtop, sometimes with timothy, is sown along with the wheat. The general practice is to sow clover in the early spring. Sometimes clover alone is sown on the wheat land and left to hold the ground only one year, when it is turned under and followed by corn or tobacco. If grasses are sown with the clover and make a good stand, the land may remain in sod two or three years for meadow or pasture. When clover is cut for hay a second growth comes on, which, if the season is favorable, is cut in the fall for seed.

It will thus be seen that the problem of rotations in this locality is very complicated. Instead of the system becoming a mechanical one, as is the case in some sections, the farmer here modifies it each year to suit such conditions as may prevail at the time of prepara-

tion and planting. To follow such a system successfully requires exceptional experience and good judgment on the part of the farmer.

Such being the conditions, the proportioning of crops on the land each year is an important factor in profitable farming in this section. This proportion is in a general way quite uniform on farms of the same size and type and has become very definitely established by custom. Hence the successful farmer in this locality makes the amount of each crop he should grow a matter of first importance, and the rotation must be adapted more or less accordingly.

The building up of the soil by means of lime, commercial fertilizer, legumes, and live stock will undoubtedly result in more regular systems of rotation.

GOOD FARMING INCREASES THE VALUE OF THE LAND.

The average price of land represented by the 342 farms studied was $64 per acre, ranging generally from $50 to $150. The average net earning capacity of the land, as previously stated, was $3.14 per acre,[1] so that the average price would just about be supported by the earning capacity of the average farm, figuring interest at 5 per cent, or about the net rate which farmers with money to loan can get in this locality. Thus, if the average farm in this community can be made to earn $5 per acre, the value of land here would be pushed up to $100 per acre. This fact affords an opportunity for increased profits to the farmer who has skill in growing crops and live stock and who, besides, understands the principles of farm organization for this locality.

THE PRACTICAL VALUE OF STANDARDS OF FARM ORGANIZATION.

In nearly all inquiries made by farmers and others relative to organizing and operating a farm, some or all of the following questions are asked: (1) What crops, and how many acres of each, should be planted? (2) What kinds of live stock, and how many of each kind, should be kept on the farm? (3) How much labor is required to do the work, and how many work animals are needed? (4) How much working capital is needed for live stock, machinery, and supplies? (5) What should be the receipts and expenses for a year's business on the farm? (6) What yields are to be expected from crops, and what returns should be expected from the various kinds of live stock?

Though these can not be answered with precision, all are practical questions which every farmer should carefully consider, and which

[1] As was pointed out on page 3, $3.14 is what the average farm would earn for a landlord if he rented it. This would be 5 per cent on a valuation of about $63 per acre.

emphasize the need of standards of organization and practice that are approximately correct for safe and reliable farming, based on the experience of successful farmers.

In asking such questions as these the size of the farm is in mind as a basis for calculating these various factors. In some sections, however, as in the cotton belt, the number of mules or horses available is the basis for organizing the farm business. In sections where dairying is the prevailing type of farming the number of dairy cows is the basis. In most sections, however, where diversified farming is the rule and where the land is comparatively high in price, the basis of farm organization is the size of the farm rather than the number of work stock or dairy stock needed to equip it. Thus, in this locality, where differences in types of farming are based largely on the amount of land available for a farm, and where diversified farming is the rule, the amount of improved land available should be taken as the basis of farm organization.

No farm organization, however well it may measure up to standards based on the experience of the best farmers, can prove successful if the operator is not efficient, if yields are much below the average of the community, if prices of cash crops should be abnormally low, or if live stock should not show a substantial profit on feed consumed. On the other hand, the farm organized on the basis of the experience of the best farmers and operated by an industrious and efficient manager could hardly fail to be successful with average yields and prices.

STANDARD YIELDS AND FARM VALUES FOR IMPORTANT CROPS AND PRODUCTIVE ANIMALS.

Table I shows the average yields and farm values for important crops on the most successful 140 farms in 1915, also the estimated normal yields and farm values of these crops. The figures given for normal yields are based on estimates of 20 to 25 farmers in the locality. In estimating normal farm values the 1915 Yearbook of the United States Department of Agriculture was consulted, and account also was taken of local conditions and the range of prices prevailing for several years past, during which time the writer has been familiar with farm conditions in this region.

It will be observed that the yields for wheat and corn were abnormally low in 1915, the year to which the farm records applied. The yields for tobacco and hay, however, were higher that year than the normal, which to a large extent compensated for low yields of cereals.

Farm values for live stock and live-stock products were generally higher in 1915 than the normal. This is shown in Table II. The normal values were estimated on the basis of prices ruling in the

general markets, account being taken of shrinkage, freight charges, and local conditions.

The weights given for hogs, stock cattle, and lambs are averaged estimates. The production and receipts per cow and the production and receipts per 100 poultry are the averages based on the most successful 140 farms. Twenty-five of the 140 successful farms made the production of milk and butter an important enterprise, and the cows on such farms were rated as dairy cows. On the 115 remaining successful farms the selling of milk and butter was only incidental to the purpose of keeping the cows. On such farms the main purpose is home supply. On all farms poultry were kept mainly to supply food for the family.

TABLE I.—*Yield and farm value of important crops for 1915 compared with estimated normal yields and farm values.*

Crop.	Unit of yield.	Average for 140 successful farms in 1915.		Estimated normal for the locality.	
		Yield per acre.	Value.	Yield per acre.	Value.
Wheat	Bushel	11.27	$1.10	18	$0.96
Corn	do	29.0	.66	35	.60
Tobacco	Pound	878.6	.0603	850	.07
Hay	Ton	1.25	14.56	1	12.00

TABLE II.—*Average farm values of live stock and live-stock products for 1915 compared with estimated normal farm values.*

Live stock and live-stock products.	Basis of comparison.	Values and receipts.	
		1915	Normal.
Hogs (200 pounds weight)	100 pounds	$6.75	$6.00
Stockers (750 pounds weight)	do	5.50	4.50
Lambs (75 pounds weight)	do	8.00	6.50
Wool (5 pounds weight)	1 pound	.34	.28
Dairy cows (530 gallons per cow)	Receipts per cow	88.50	.....
Average farm cow (370 gallons per cow)	do	22.30	.....
Poultry (62 eggs per hen)	Receipts per 100 hens	46.28	.....

A STUDY OF FIVE INDIVIDUAL FARMS WHICH, IN GENERAL, ILLUSTRATE GOOD STANDARDS FOR THE ORGANIZATION OF FARMS IN THE AREA STUDIED.

AN 89-ACRE TOBACCO FARM.

Improved-land area	acres	83
Field crop area	do	49
Pasture	do	34
Business statement:		
Value of owner's land (75 acres)		$7,000
Value of rented land (14 acres)		1,200
Working capital		1,168
Receipts		1,583

Expenses	$636
Farm income	947
Interest on operator's investment, at 5 per cent	408
Labor income	539

Crops:	Acres.	Yield.	Per cent of crop area.
Corn	15	35 bushels	31
Wheat	15	10 bushels	31
Tobacco	14	821 pounds	28
Miscellaneous crops	5	----------	10

Live stock:	Number on farm.	Number per 100 acres of improved land.
Cows	2	2.3
Young stock	2	2.3
Hogs	14	16.0
Poultry	200	241.0

Man labor: Approximately 800 days of man labor were required. No hired labor was employed. Work was done by the operator and family, the total labor employed being the equivalent of about 2.5 year hands.

Horse labor: Approximately 350 days of horse labor were required. Two mules were kept to do this work.

Capital: The average value of owned and rented land was about $90 per acre. The working capital was $1,168, or $14.07 per acre of improved land.

The distribution of working capital was:

Live stock	$619
Machinery	201
Feed and supplies	198
Cash to run business	150
Total	1,168

Expenses: The farm expenses amounted to $630, or about 40 per cent of receipts.

Sources and amount of receipts:

Wheat	$125
Tobacco	949
Dairy	129
Hogs	77
Poultry	107
Increase inventory	196
Total	1,583

Sixty per cent of receipts on this farm were from tobacco, 28 per cent of the crop area being devoted to this crop and more than half the man labor. For these reasons such a farm may be classified as a distinctly tobacco farm.

Receipts were $19.07 per acre of improved land.

Though the labor income in this instance was not high, it was above the average of the farms surveyed, and the farm could be rated as successful.

The small successful farms varied in type much more than large farms. Some of them specialized on dairying. One farm, 83 acres in size, specialized on meadow hay and made a labor income of $884.

The 89-acre tobacco farm just analyzed made about the average yield of tobacco. The price obtained, however, was 8¼ cents per pound, which was much higher than the average for that year. This shows that the tobacco must have been of good quality.

It will be noted that while the main source of income was tobacco, five other sources contributed materially to the farm income. Success on a small farm depends much on making the minor enterprises contribute to the income.

A 138-ACRE DIVERSIFIED DAIRY FARM.

Improved land area—acres	136
Crop area—do	97
Pasture area—do	39
Business statement:	
Value of owned land (135 acres)	$13,500.00
Value of rented land (3 acres)	600.00
Working capital	2,975.00
Receipts	2,404.00
Expenses	952.00
Farm income	1,452.00
5 per cent interest on investment	839.00
Labor income	613.00

Crops:	Acres.	Yields.	Per cent of crop area.
Corn	40	32 bushels.	41
Wheat	30	13 bushels.	31
Meadow	8	1½ tons.	8
Tobacco	12	857 pounds.	7
Miscellaneous crops	12	----------	13

Live stock:	Number.	Number per 100 acres of improved land.
Cows	10	7.4
Young stock	8	5.9
Bull	1	----
Hogs	17	12.5
Poultry	100	74.0

Man labor: Approximately 740 days of man labor were required. The operator and one year hand, with some help by the family, did the labor on this farm. The total labor employed was the equivalent of about 2.7 year hands.

Horse labor: Approximately 550 days of horse labor were required for the work on this farm. Two horses and three mules were kept on the farm.

Capital: The land was valued at $100 per acre. The working capital was $2,975, or about $22 per acre of improved land.

The distribution of working capital was as follows:

Live stock	$1,684
Machinery	366
Feed and supplies	625
Cash to run business	300

Sources and amount of receipts:

Wheat	$400
Tobacco	360
Dairy	1,030
Young stock	271
Hogs	220
Poultry	21
Other sources	102
Total	2,404

The receipts amount to $17.70 per acre of improved land. Receipts from the dairy are greater than from any other one source, being 43 per cent of the total. Receipts from the four other major sources were pretty evenly distributed. The selection and proportioning of crops were similar to the common diversified farms. It then may be classified as a diversified dairy farm.

Expenses: Expenses were $952, or about 40 per cent of receipts.

This farm was well organized for the general dairy type of farming in this locality. About 43 per cent of the total receipts were from dairy cows. The balance of receipts was well distributed to crops and the various kinds of live stock found to be profitable here. This distribution shows proper diversity.

Receipts per cow were $103, showing good quality for the dairy business. About an equal amount of receipts were from market milk and butter. The average for 24 dairy farms was $88.50 per cow.

Crop yields were about normal, and the proportioning of crops and live stock conformed fairly well to standards set by the more successful farms in the community. However, if this land had been a general diversified dairy farm there should have been about 14 acres of tobacco instead of 7, and about 30 acres of corn instead of 40.

Both man and horse labor were well utilized. The farm was much better stocked than the average. There were 5.6 acres of improved land to each 1,000 pounds of animals. The average of 342 farms was 20.5 acres per 1,000 pounds of animals. Fifty-four farms, showing less than 10 acres of improved land per 1,000 pounds of animals, had an average labor income of $621, or nearly twice that of the average farm.

A 160-ACRE DIVERSIFIED GENERAL FARM.

Improved land area	acres	156
Crop area	do	126
Pasture	do	30
Business statement:		
Value of land, at $80 per acre		$12,800
Working capital		6,499
Receipts		5,847
Expenses		2,116
Farm income		3,731
5 per cent interest on investment		965
Labor income		2,766

Crops:	Acres.	Yield.	Per cent of crop area.
Corn	25	40 bushels.	20
Wheat	40	25 bushels.	32
Oats	12	50 bushels.	10
Meadow	25	1½ tons.	20
Tobacco	20	1,000 pounds.	16
Cowpeas (double crop)	10	.....	8
Alfalfa	4	.....	4

Live stock:	Number.	Number per 100 acres of improved land.
Cows	3	1.9
Young stock	2	1.3
Stock cattle	32	20.5
Hogs	46	29.0
Poultry	100	64.0

Man labor: Approximately 1,500 days of man labor were required on this farm. About 700 days' labor required by the 20 acres of tobacco was done by a cropper. The remaining 800 days' labor was done by a year hand, the operator, and some family labor.

Horse labor: Approximately 820 days of horse labor were required on the farm. The owner furnished horse labor to the cropper raising the tobacco. Seven work animals were kept on the farm to do this labor—2 horses and 5 mules.

Capital: The value of the land was $80 per acre. Working capital invested amounted to $6,499, or about $41 per acre of improved land.

The distribution of working capital was approximately as follows:

Live stock	$4,298
Machinery	516
Feed and supplies	685
Cash to run farm	1,000

Sources and amount of receipts:

Wheat	$1,250
Tobacco	1,300
Cows	130
Young stock	225
Stock cattle	1,495
Hogs	637
Poultry	400
Increase inventory, and other sources	410
	5,847

The receipts amount to about $37.50 per acre of improved land. Receipts are about evenly divided between wheat, tobacco, and live stock, making the type a distinctly diversified general farm.

Expenses were approximately $13.50 per acre, or about 36 per cent of receipts.

This was an unusually successful farm for the region. Its success was due largely to high crop yield and profits in feeding stock cattle. A large amount of the stock feed came from cowpeas and alfalfa. Twenty-five tons of these products were fed, mostly to stock cattle.

The sources and amount of receipts shown above indicate a good degree of diversity. The proportioning of crops and live stock conform to the standards of the more successful farms. Both man and horse labor were well utilized. The farm was unusually well stocked, there being the equivalent of about one 1,000-pound animal for 3 acres of improved land. These factors indicate excellent organization.

A 315-ACRE DIVERSIFIED GENERAL FARM.

Improved land area	acres	296
Crop area	do	200
Pasture	do	56
Idle crop land	do	40
Business statement:		
Value of land		$23,625
Working capital		5,165
Receipts		4,777
Expenses		1,917
Farm income		2,860
5 per cent interest on investment		1,440
Labor income		1,420

Crops:	Acres.	Yield.	Per cent crop area.
Corn	55	40 bushels.	28
Wheat	80	10 bushels.	40
Meadow	50	1.6 tons.	25
Tobacco	11	800 pounds.	5
Other crops	4	----------	2

Live stock:	Numbers.	Number per 100 acres of improved land.
Cows	7	2.4
Bulls	1	----
Young stock	5	1.7
Stock cattle	7	2.4
Sheep	41	13.8
Hogs	42	14.2
Poultry	40	13.5

Man labor: Approximately 1,400 man days' labor was required on this farm. Two regular year hands were employed. The equivalent of two year hands was hired as extra labor. Besides this, family labor was utilized equivalent to about one year hand. The operator did no manual labor on the farm.

Horse labor: Approximately 1,000 days of horse labor were required on this farm. Ten head of work stock were kept—2 horses and 8 mules.

Capital: The land was valued at $75 per acre. Working capital amounted to $5,165, or about $17.50 per acre of improved land. Working capital was distributed as follows:

Live stock	$2,636
Machinery	1,717
Feed and supplies	622
Cash to run business	200

Sources and amount of receipts:

Wheat	$700
Tobacco	506
Hay	700
Clover seed	450
Dairy	508
Heifers	140
Stock cattle	555
Sheep	210
Hogs	328
Thrashing for neighbors	530
Increased inventory	150
Total	4,777

The receipts amounted to $16.14 per improved acre. About 34 per cent of receipts are from live stock, fairly distributed to stock cattle, hogs, sheep, and dairy cows. The balance of receipts are fairly distributed to wheat, tobacco, hay, clover seed, and outside labor. This distribution would put the farm in the class of diversified general farms.

In spite of low crop yields for wheat and tobacco, this farm was fairly successful for its size. Yields less than normal for two important cash crops—wheat and tobacco—while having a large influence in lowering profits, did not prevent business success, because much larger profits than usual were made on live stock. For every $100 worth of feed consumed, live stock netted the farm $201. This was one of the most highly diversified farms studied. Six of the 11 sources of income were nearly of equal value. Diversity is one of the important factors influencing profits in farming. No better illustration of this principle could be given than the results on this farm.

While strong in diversity and quality of the live-stock business, there were some weak points in the organization of this farm. Standards based on the most successful farming would have required 20 to 25 acres of tobacco instead of 11 acres. Best standards would have required also more live stock. Instead of the equivalent of thirty-seven 1,000-pound animals, the number should have been at least 50.

Forty acres of land was idle, showing that the farm was having difficulty in maintaining fertility. Idle land on the farm is an important negative factor in profitable farming in this locality. It frequently determines profit or loss.

A 1,091-ACRE DIVERSIFIED GENERAL FARM.

Improved area	acres	952
Crop area	do	602
Pasture area	do	320
Idle land	do	30
Business statement:		
Value of owner land, 203 acres, at $75		$15,225
Value of rented land, 888 acres, at $80		71,040
Working capital		12,312

Receipts	$12,053
Expenses, including $2,200 cash rent	6,470
Farm income	5,583
5 per cent interest on operator's investment	1,377
Labor income	4,206

Crops:	Acres.	Yield.	Per cent of area.
Corn	175	30 bushels	29
Wheat	275	13 bushels	46
Meadow	65	1 ton	11
Tobacco	45	750 pounds	7
Cowpeas	30	----------	5
Other crops	12	----------	2

Live stock:	Number.	Number per 100 acres of improved land.
Cows	22	2.3
Bulls	1	---
Young stock	20	2.1
Stock cattle	24	2.5
Hogs	215	23.0
Poultry	105	11.0

Man labor: Approximately 4,000 days of man labor were required on this farm. This labor was performed by 7 year-hands, extra labor amounting to 4 year-hands, and the operator.

Horse labor: Approximately 2,700 horse days were required. Twenty-two work stock were kept—4 horses and 18 mules.

Capital: Operator's land was valued at $75 per acre and rented land at $80. Working capital was all furnished by operator, amounting to $12,312, or 12.82 per acre of improved land.

Working capital was distributed as follows:

Live stock	$5,645
Machinery	1,742
Feed and supplies	3,425
Cash to run farm	1,500

Sources and amount of receipts:

Wheat	$3,610
Tobacco	1,688
Hay	1,080
Cows	1,515
Young stock	355
Stock cattle	855
Horses	330
Pasturing and feeding stock	346
Hogs	2,223
Other sources	151
Total	12,153

Receipts amounted to about $12.80 per acre. On this farm wheat is the source of highest income. As a rule, in this locality the importance of wheat increases with the size of the farm. Receipts, however, are about equally divided between crops and live stock. The type is largely that of the diversified general farm.

Expenses were $6,470, including $2,200 paid in cash rent. This farmer did a successful farm business. Crop yields were somewhat below normal. Profits on live stock, however, were good and above the average, the live-stock receipts being $145 for each $100 worth of feed consumed. A great factor in the success of the business was 888 acres of land rented for cash, a little less than $2.50 per acre. The landlord received, however, about 3 per cent on his investment.

This farm should have carried more live stock to conform to the standards of the more successful farmers. The equivalent of 114 1,000-pound animals were carried, when the number should have been about 150. No sheep were kept. The organization could have been improved if there had been about 150 ewes. This would have about rounded out the stocking of the farm.

Field crops were proportioned approximately according to the standards of the average farm of this size.

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